BIOLOGICAL EVALUATION

COOPERATIVE GYPSY MOTH PROJECT
FOR
NORTHERN INDIANA
2009

Gypsy moth is moving into northern Indiana from the infestations in Michigan and Ohio. Its movement is by natural spread and short distance transport by human activities. To detect the introduction of this pest, the State of Indiana has surveyed since 1972. From 1988 to 1998 the survey used a one-mile grid in the northern third of Indiana and a two-mile grid in the remainder of the state. In 1999, Indiana adopted the Slow-The-Spread (STS) survey protocol developed by the USDA Forest Service. Traps are set in detection (2K or 3K) and delimit (250M, 500M or 1K) grids across the state. The 2008 survey set 13,419 detection traps and 1,561 delimit traps, for a total of 14,980 traps set across the state.

The STS analysis of the 2008 trapping data identified potential problem areas in three counties in northern Indiana (Map 1). The analysis identified higher or equivalent moth catches in delimiting survey grids placed at each site compared to detections and delimits in prior years. The STS analysis indicates that gypsy moth populations are stable or increasing in the potential problem areas and recommends action.

In the three northern counties with proposed treatment sites, the mean number of gypsy moths caught in detection traps generally decreased in 2004, fluctuated in 2005, then increased in 2006-2008 (Table 1 & Figure 1).

Map 1 shows various moth lines across northern Indiana based on STS analysis of 2008 data.

Map 2 and 3 show the number of gypsy moth detected in each county for 2008 and 2007, respectively.

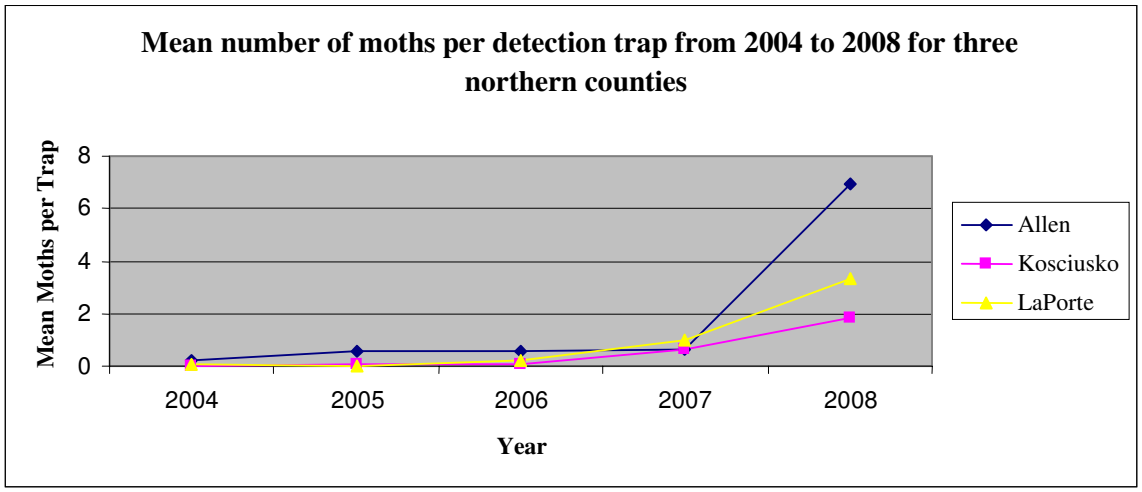
Map 4 shows the 10-moth line from 2004-2008. This analysis places the STS action area below the 10-moth line, in the eastern portion of northern Indiana. The 12 proposed treatment sites in 3 counties are based on the trapping surveys, STS analysis, egg mass detections and habitat.

The site and moth trapping data can be viewed at the STS website - http://da.ento.vt.edu/Region1/d2008/tabdec.html

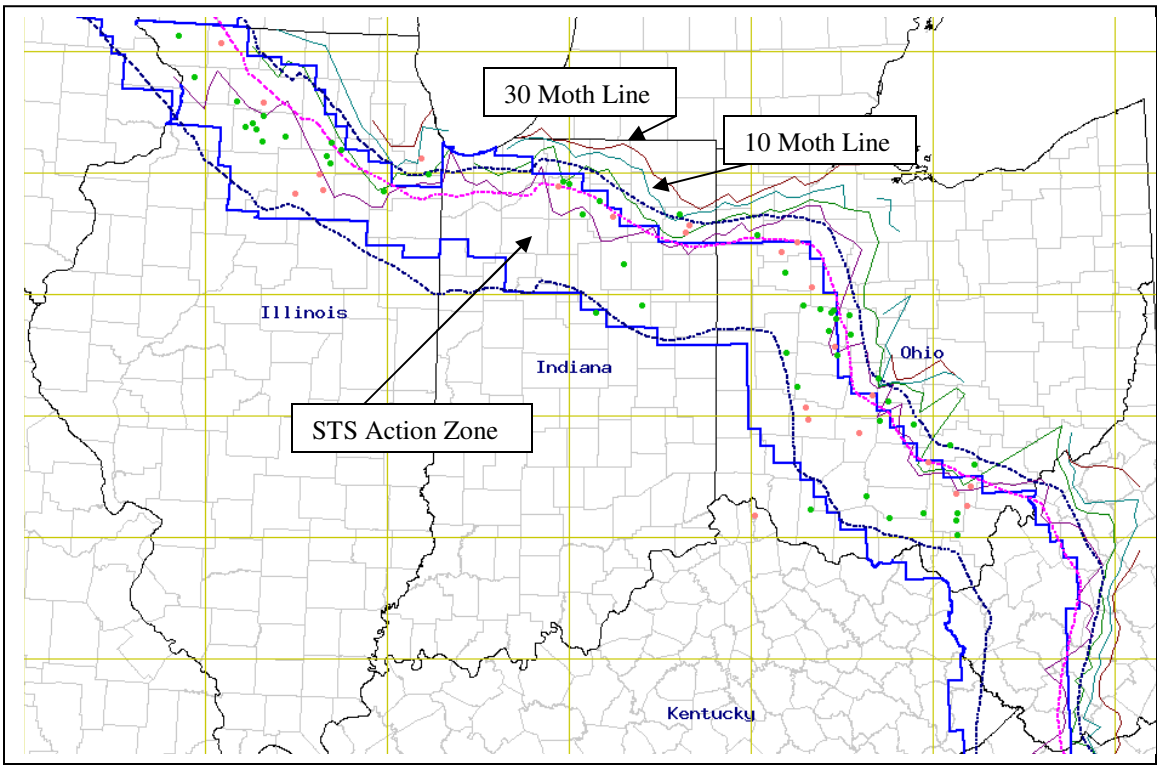
Table 1. Mean number of moths per detection trap (milk carton and delta) in the proposed counties for 2004 to 2008.

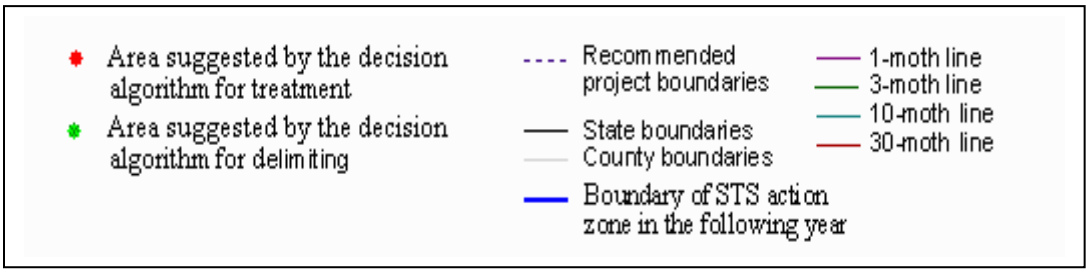
County	2004	2005	2006	2007	2008
Allen	0.24	0.55	0.60	0.66	6.97
Kosciusko	0.01	0.05	0.09	0.67	1.82
LaPorte	0.07	0.03	0.20	0.97	3.34

Figure 1. Mean number of moths per detection trap from 2004 to 2008 for three northern counties.

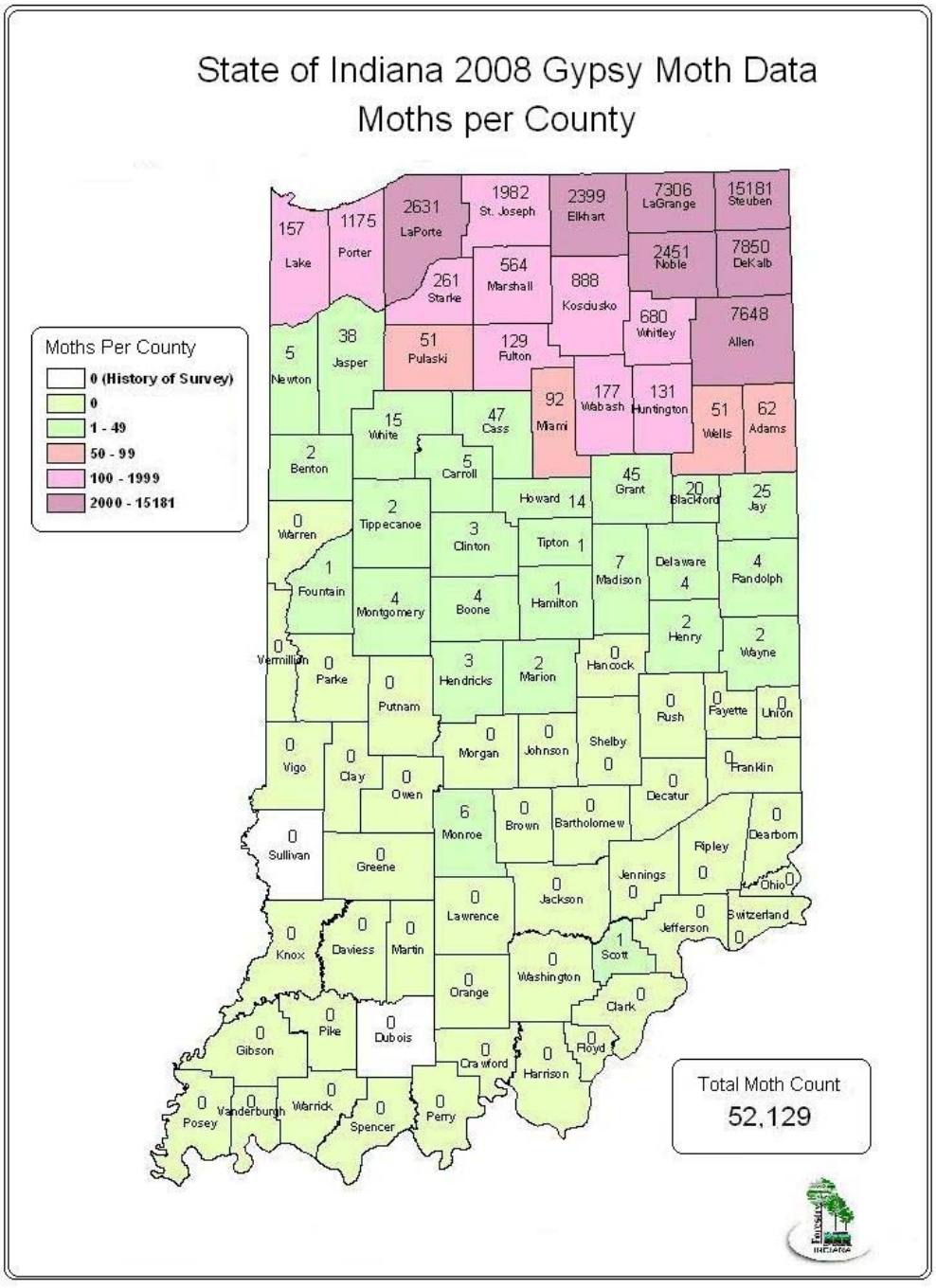


Map 1. Results of the 2008 Gypsy Moth survey showing potential problem areas by Slow-The-Spread analysis for Illinois, Indiana and Ohio (red dots indicate suggested treatments and green dots indicate suggested delimit survey).

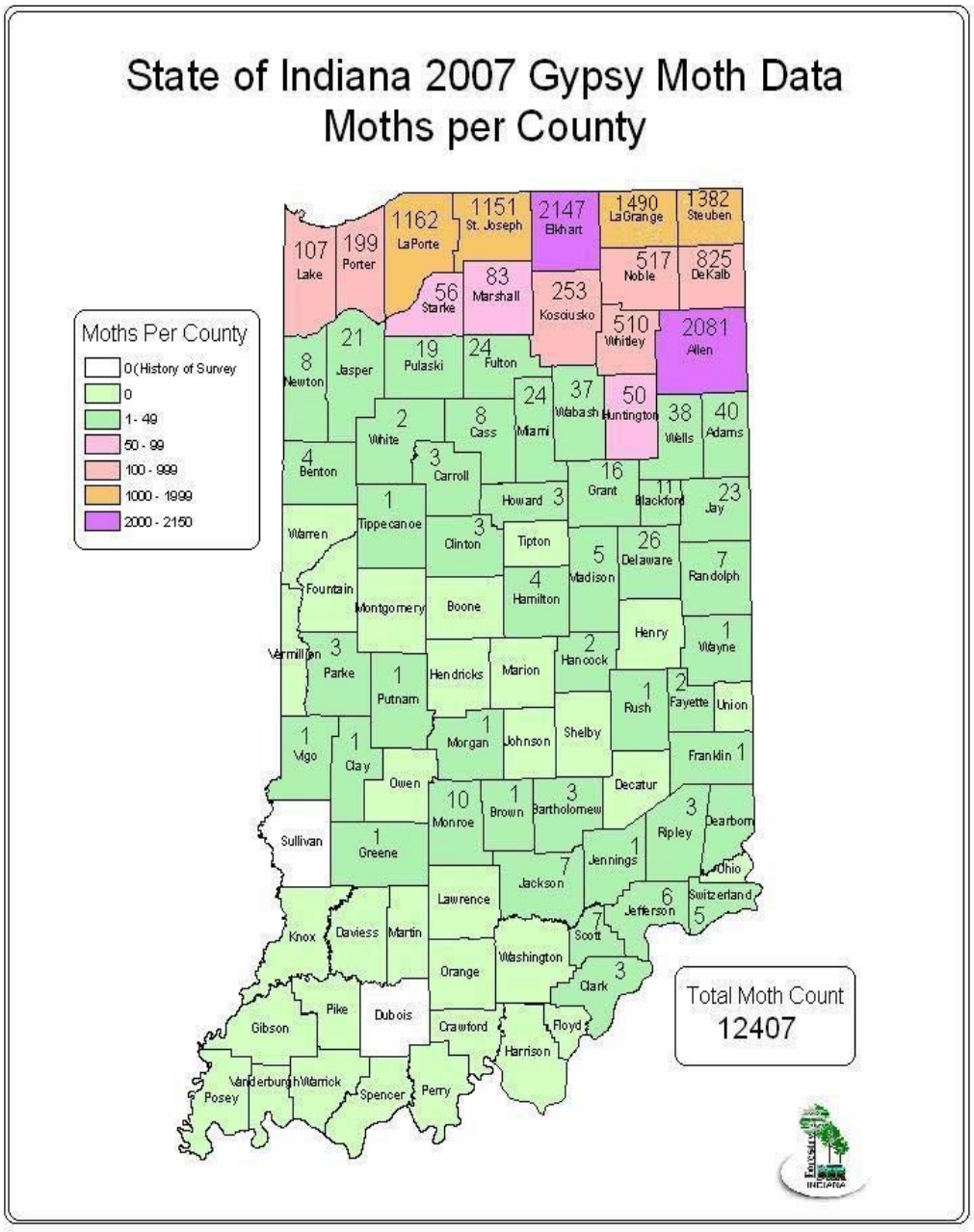




Map 2. Male moth catches by county for 2008.



Map 3. Male moth catches by county for 2007.



Map 4. The 10-moth line of Gypsy Moth in Indiana from 2004 to 2008.